

FIG. 1 PRIOR ART

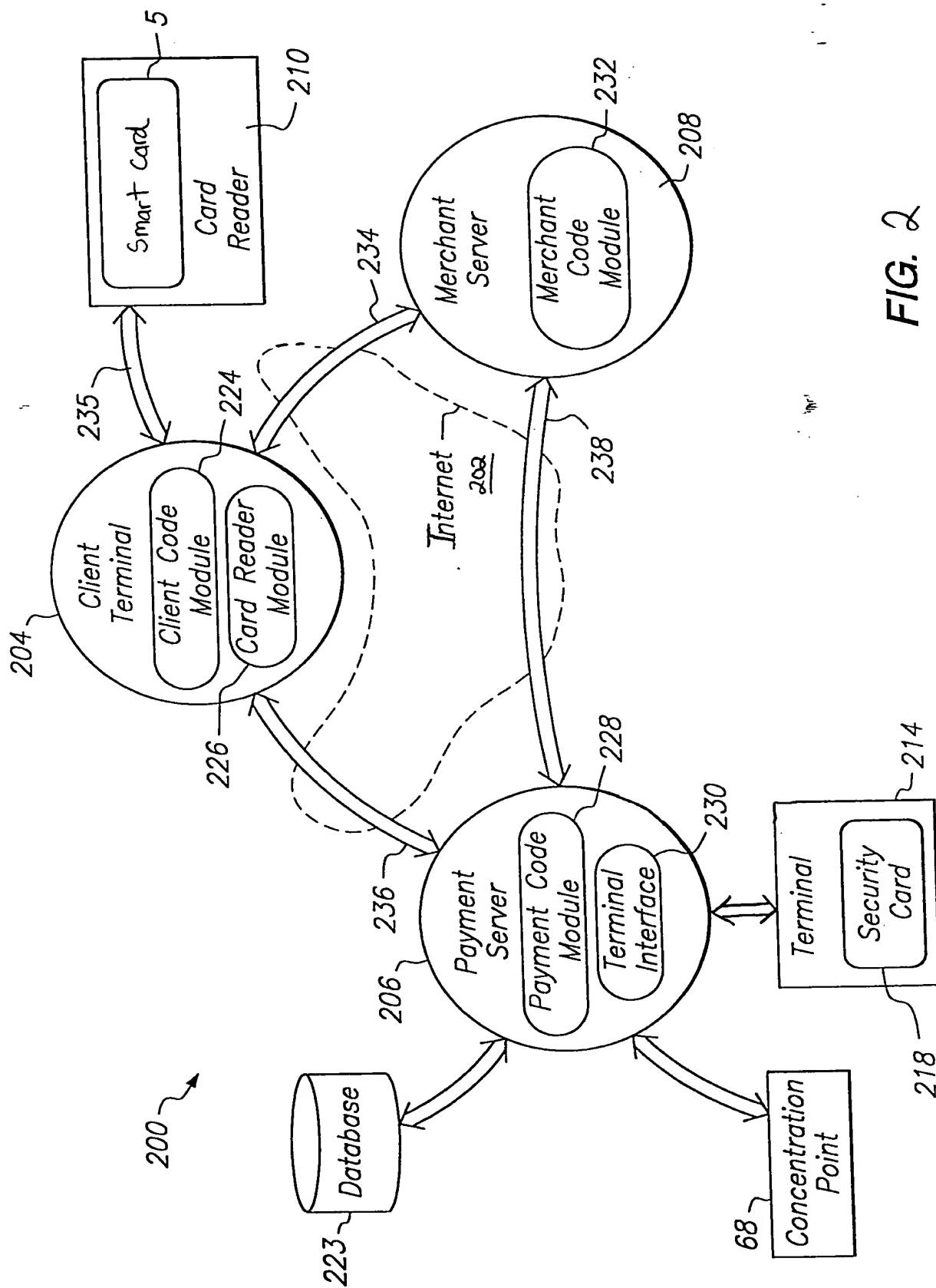
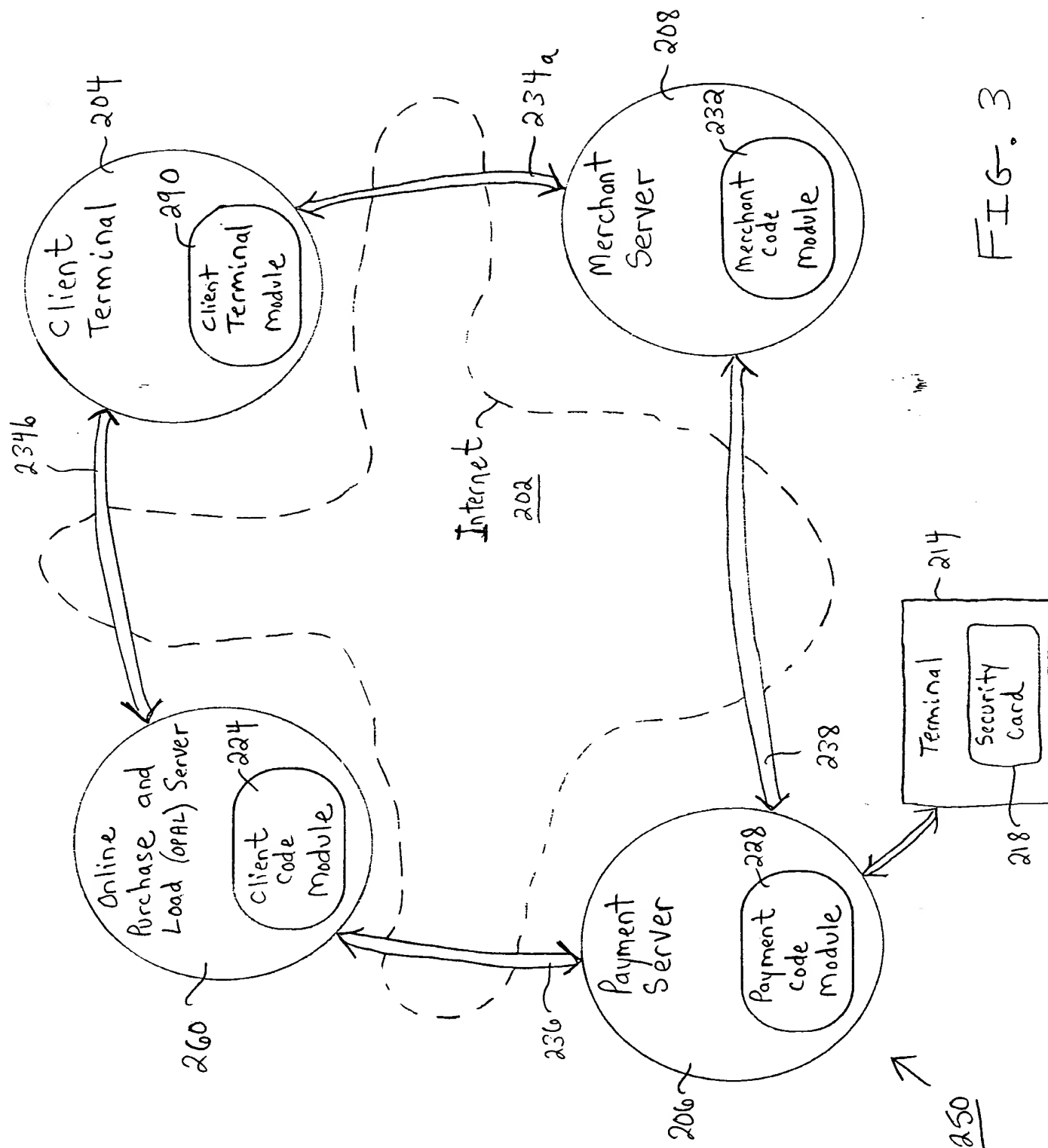


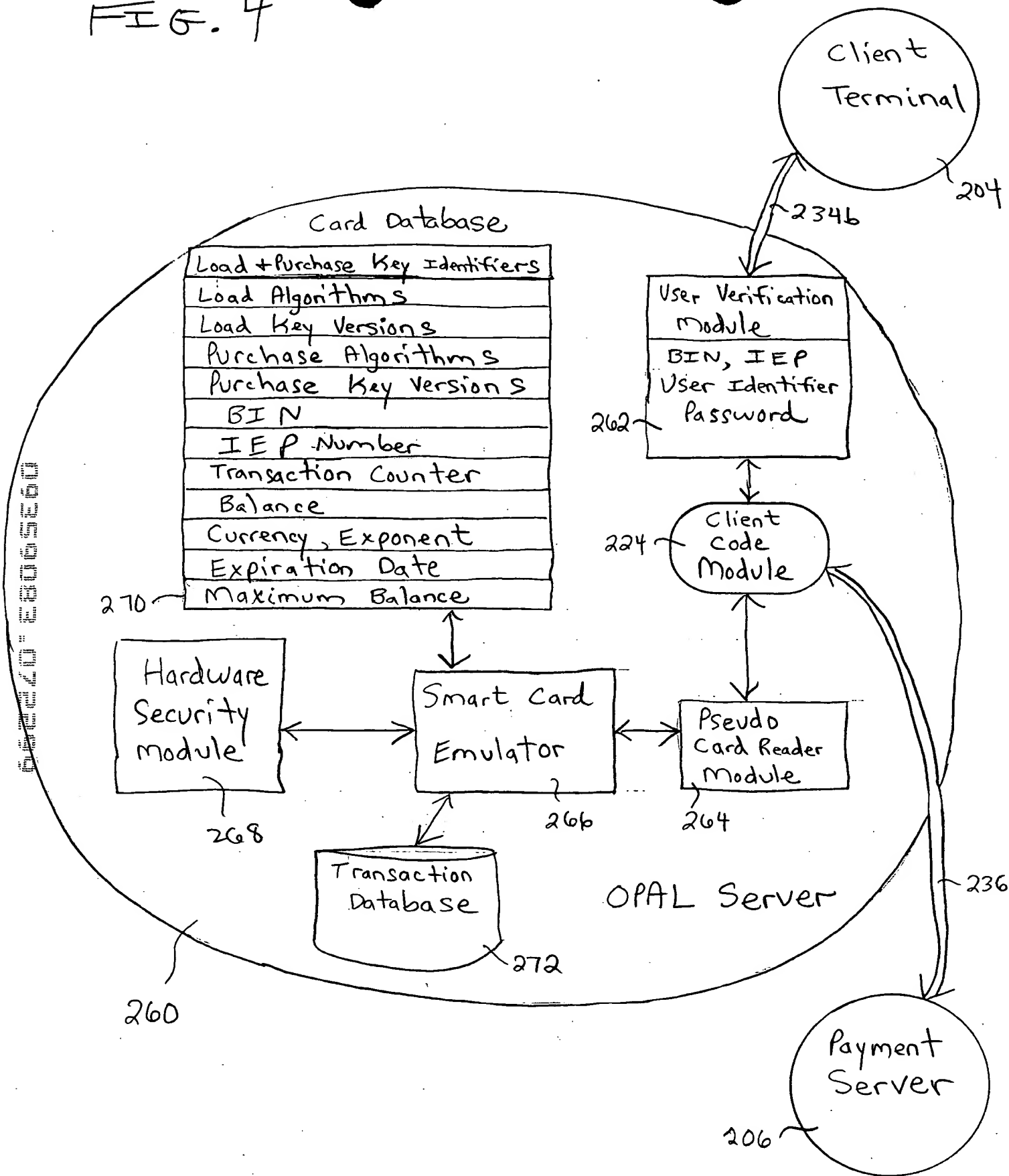
FIG. 2

1. 1



3
b.
H
H

FIG. 4



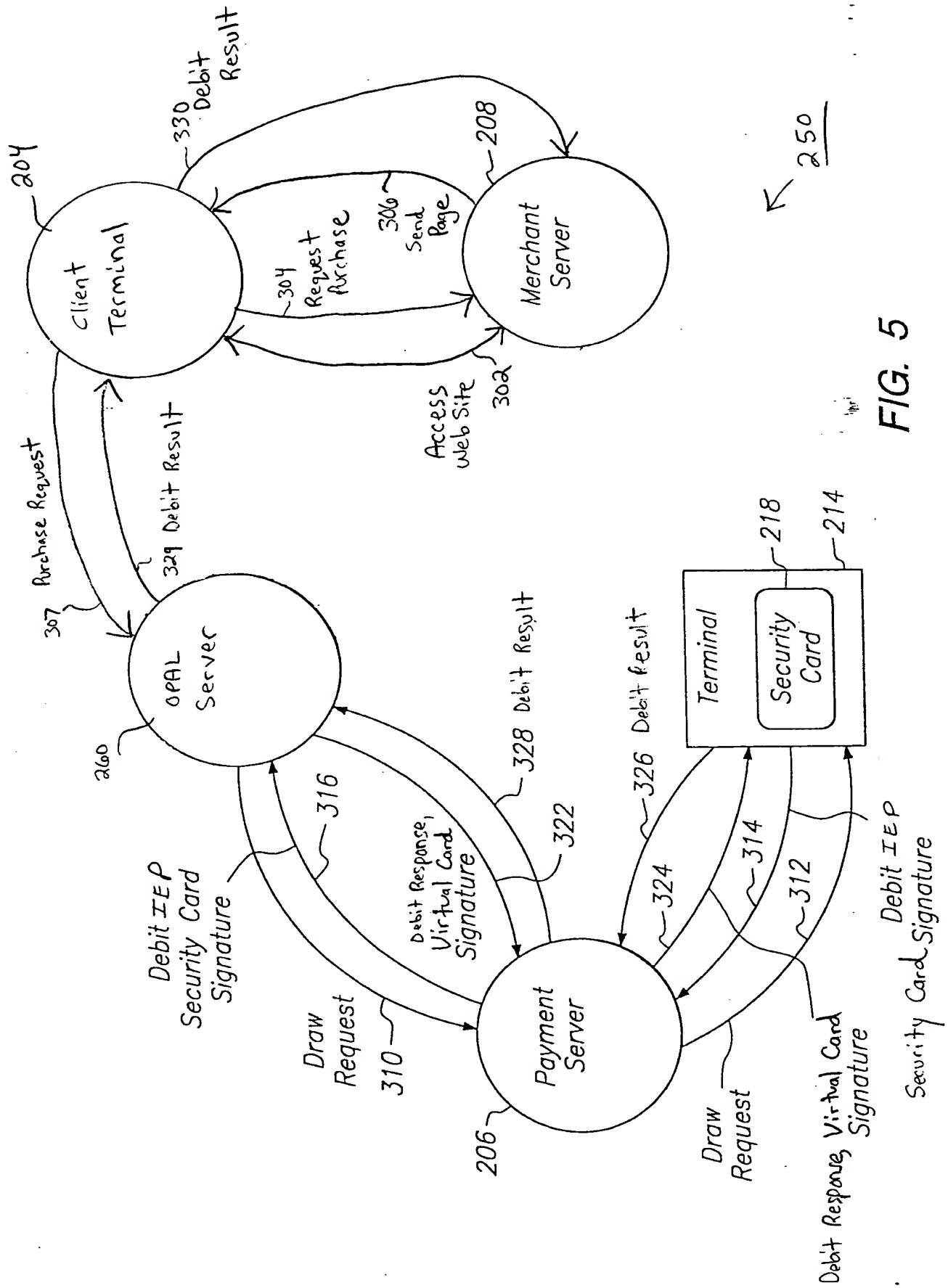


FIG. 5

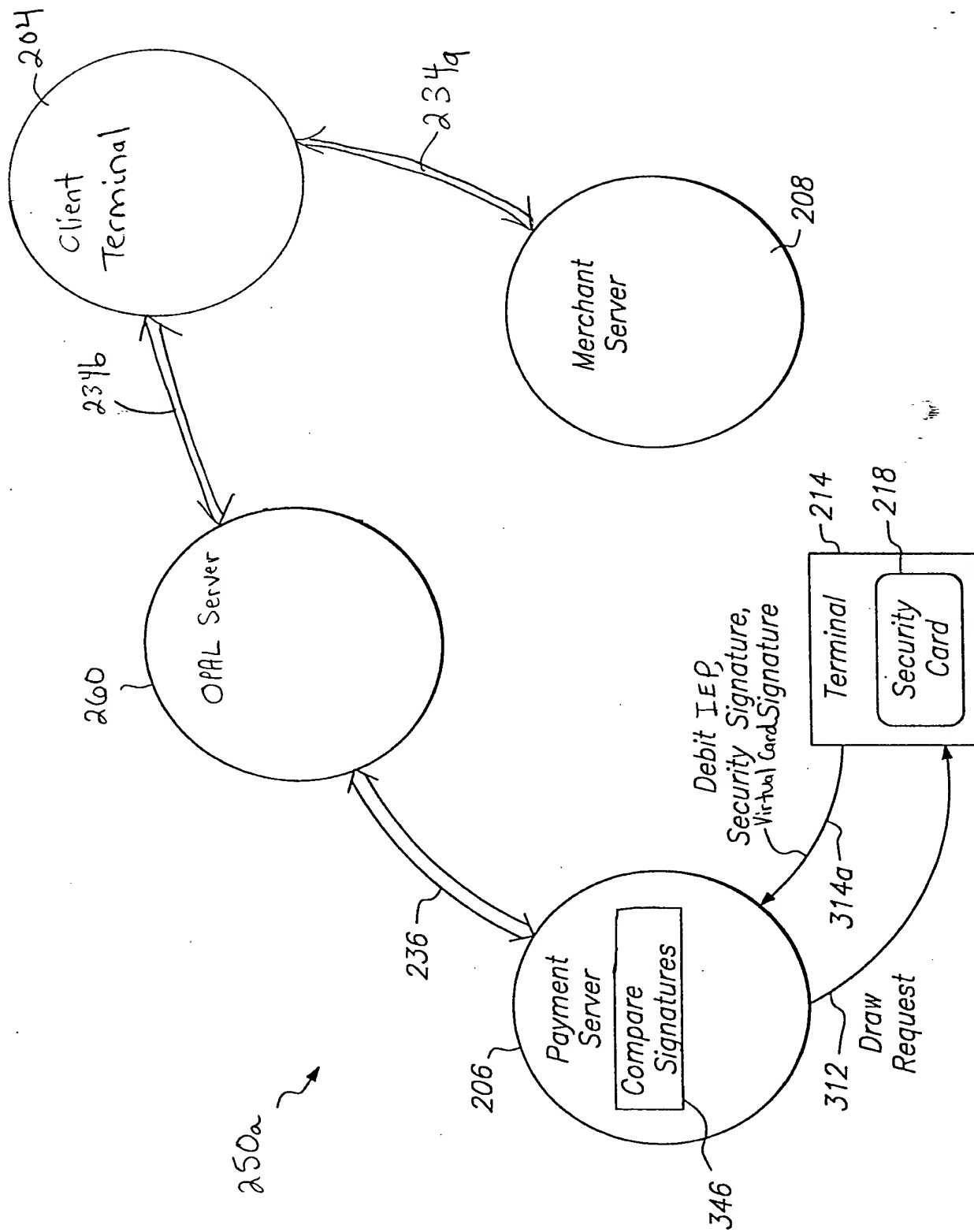


FIG. 6

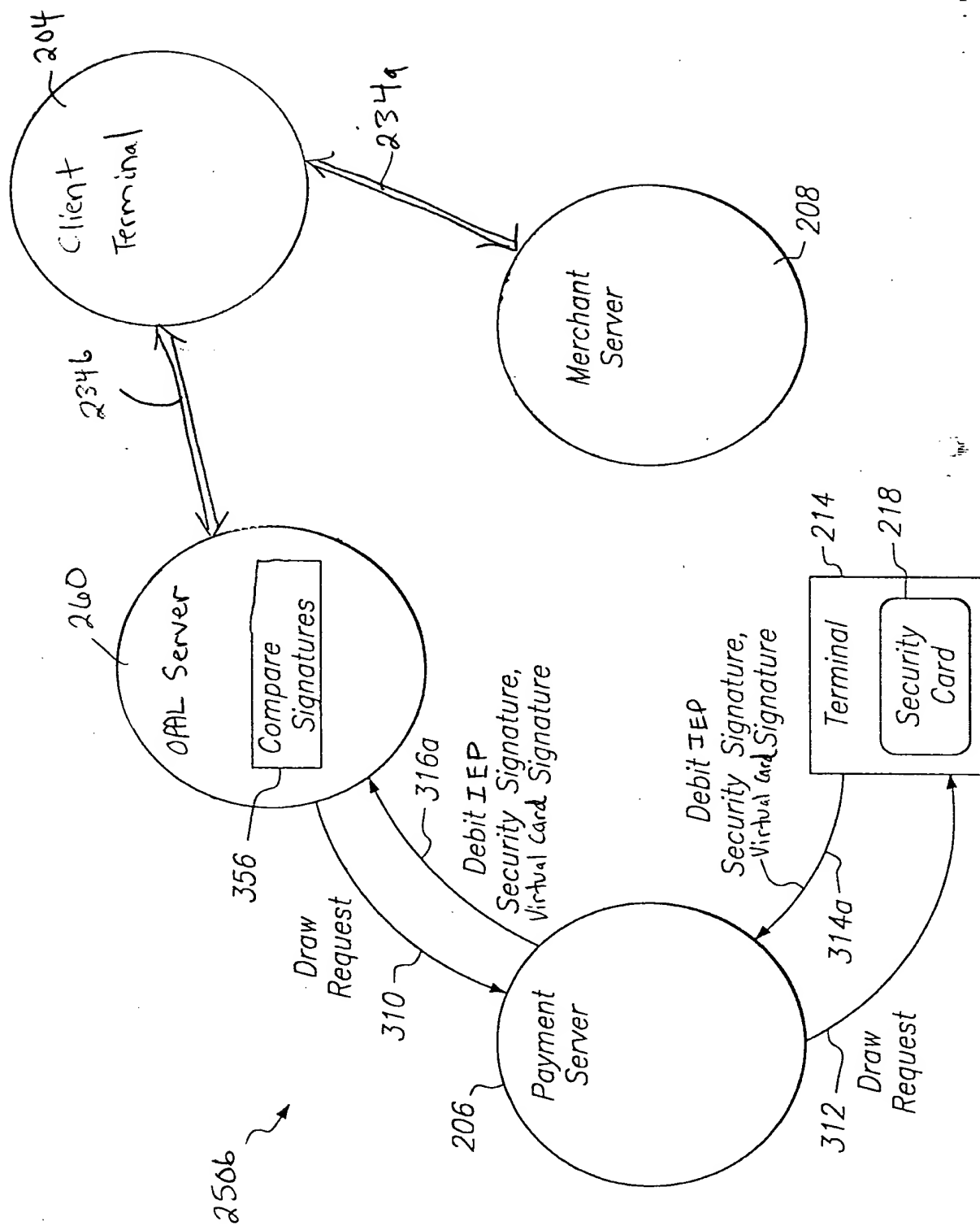


FIG. 7

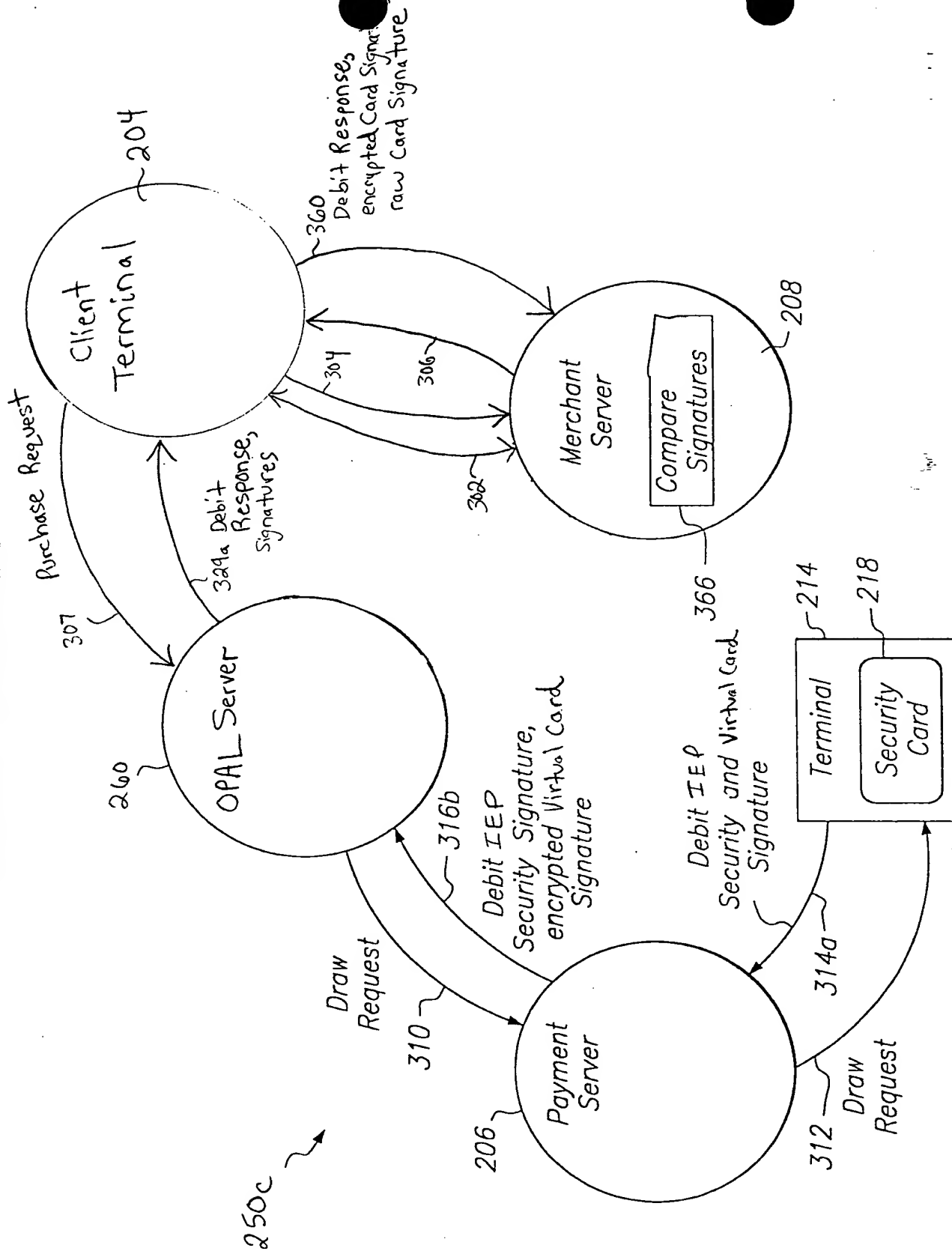


FIG. 8

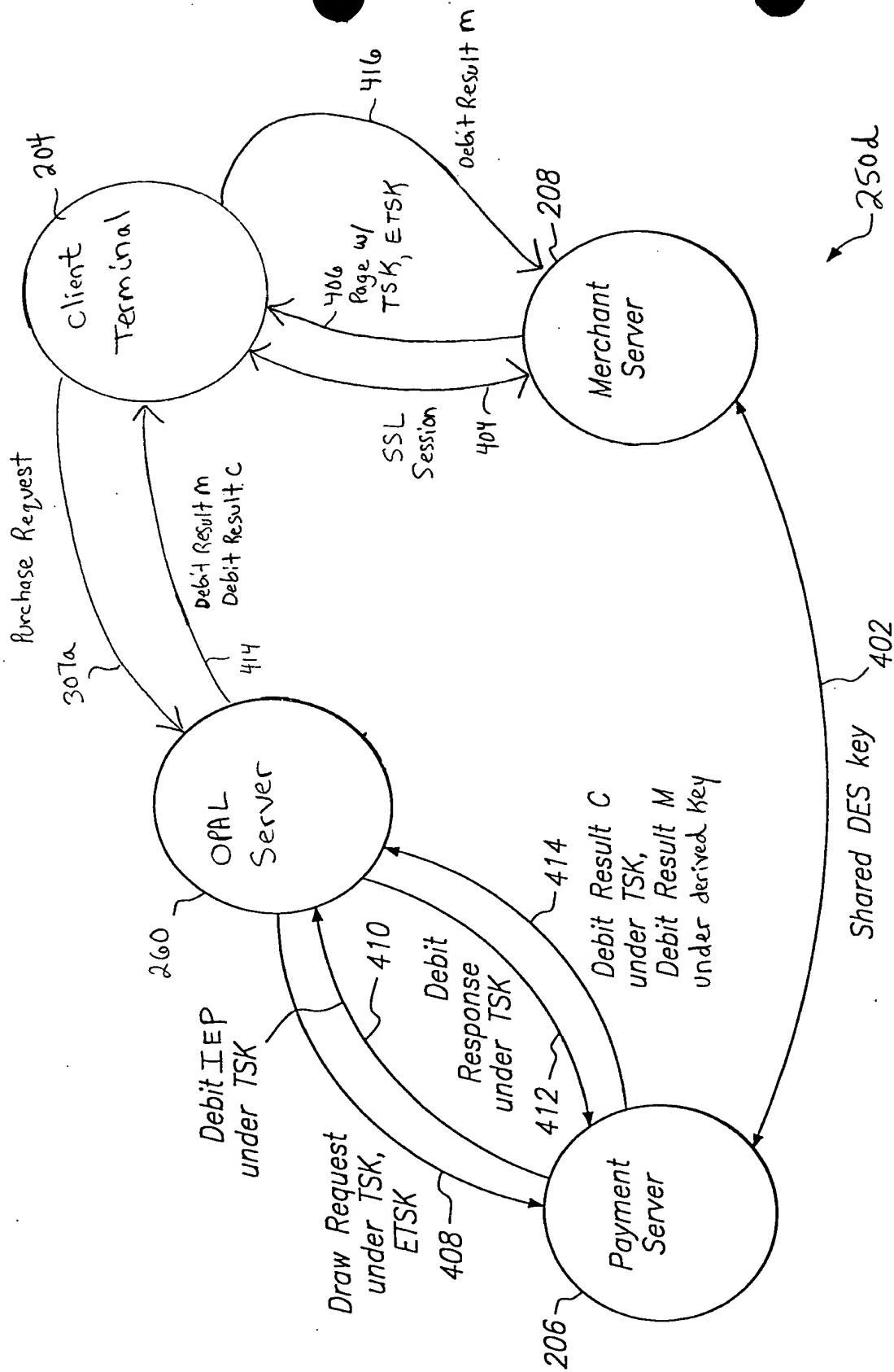


FIG. 9

FIG. 10

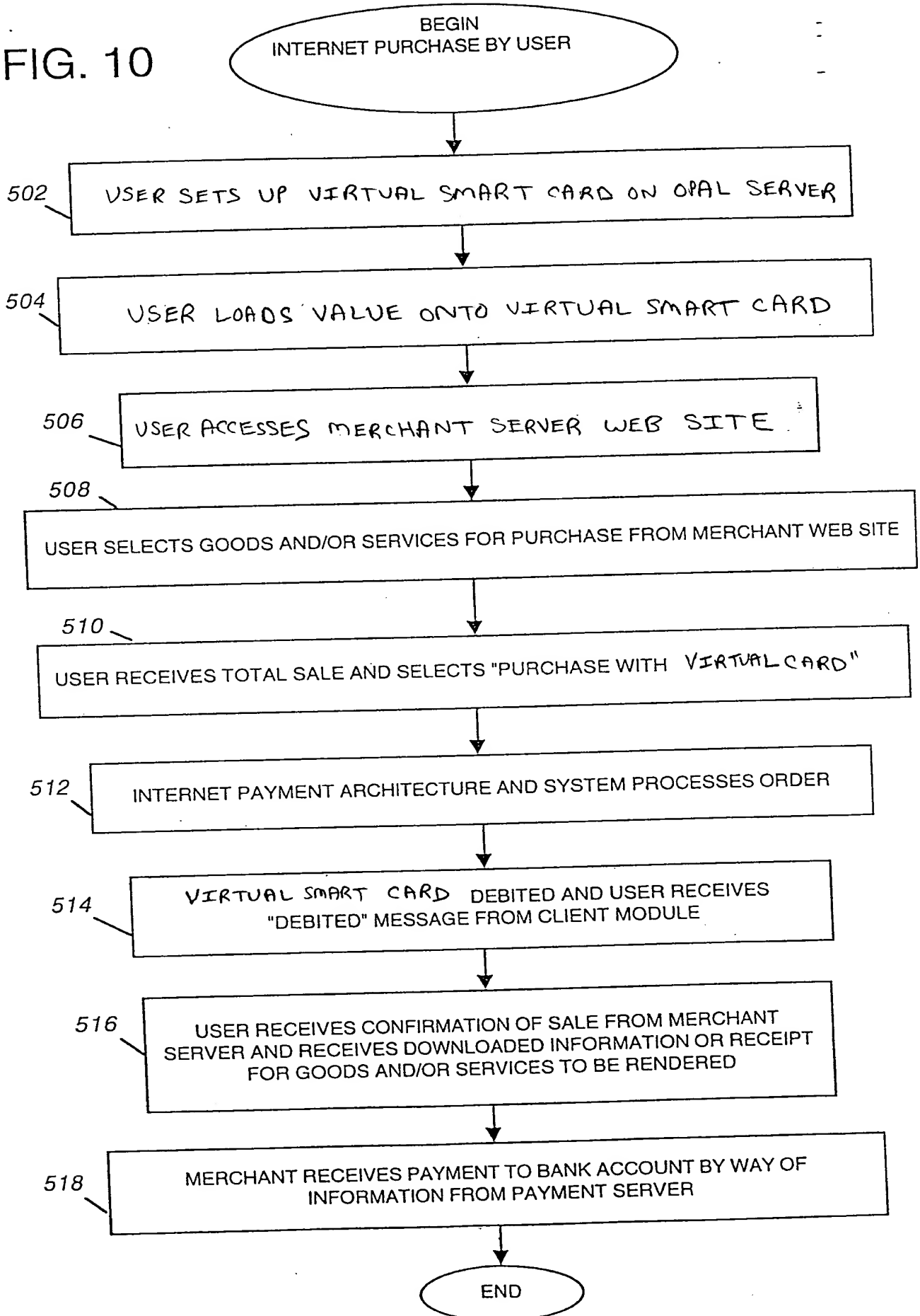


FIG. 11A

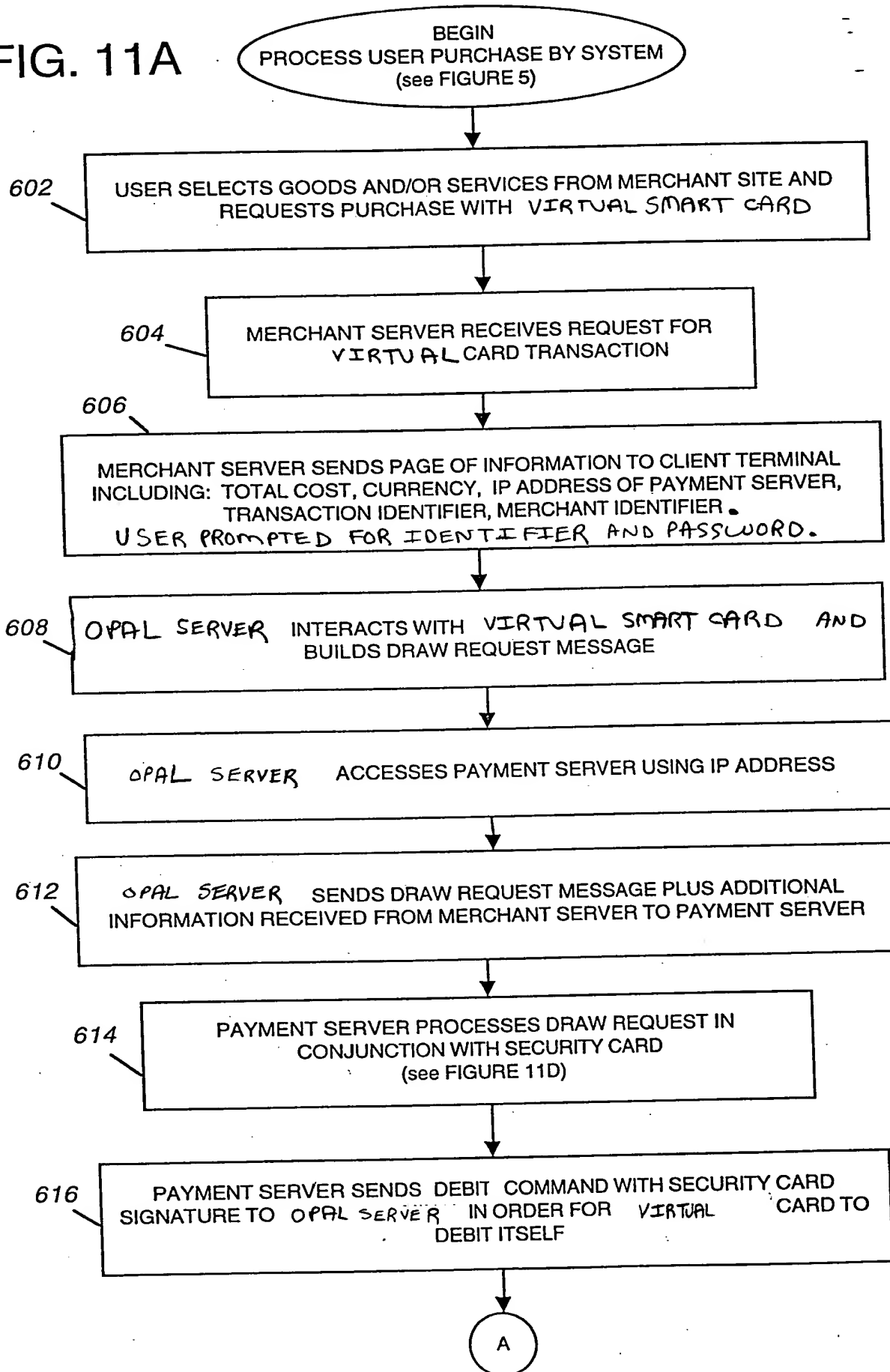
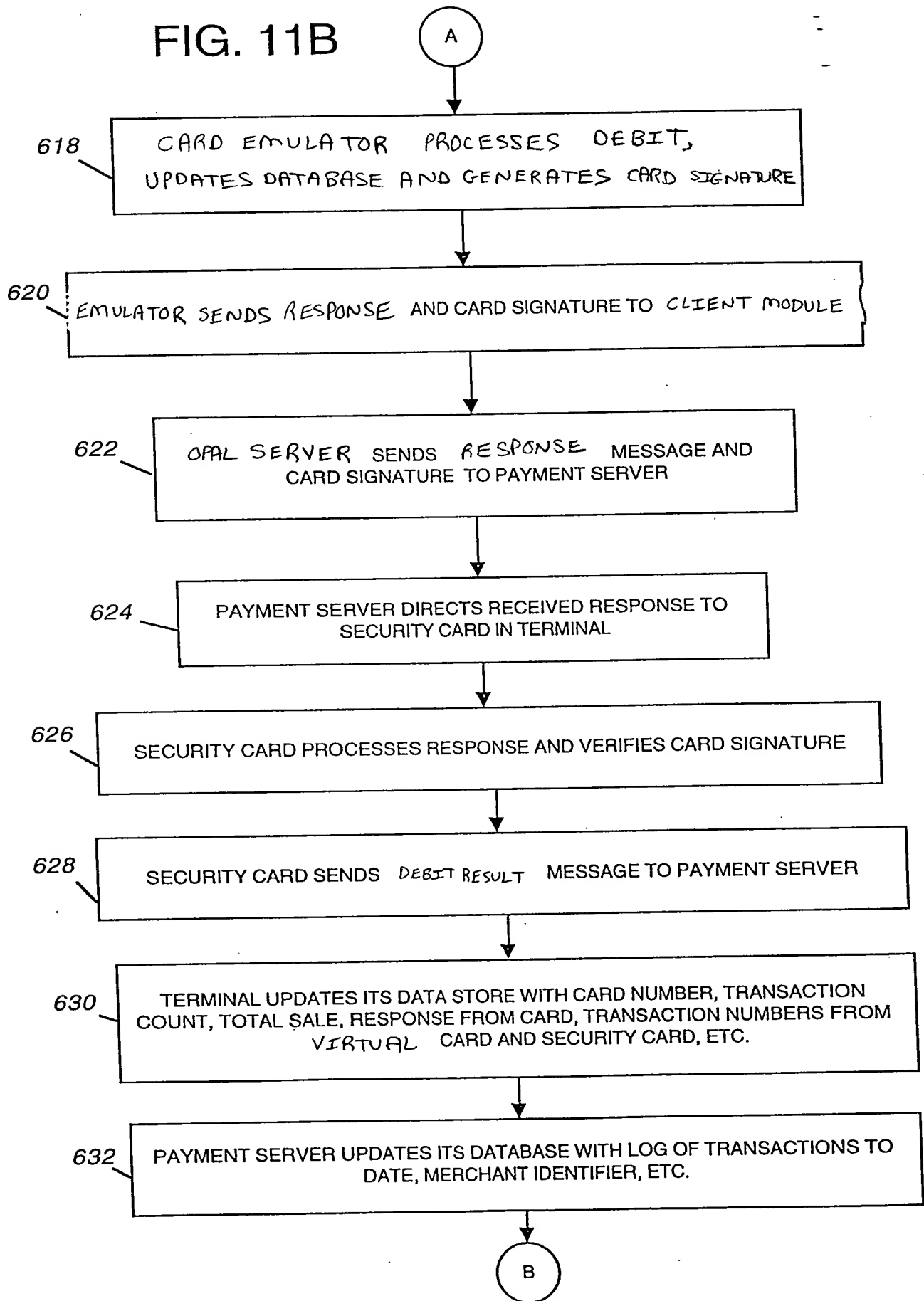


FIG. 11B



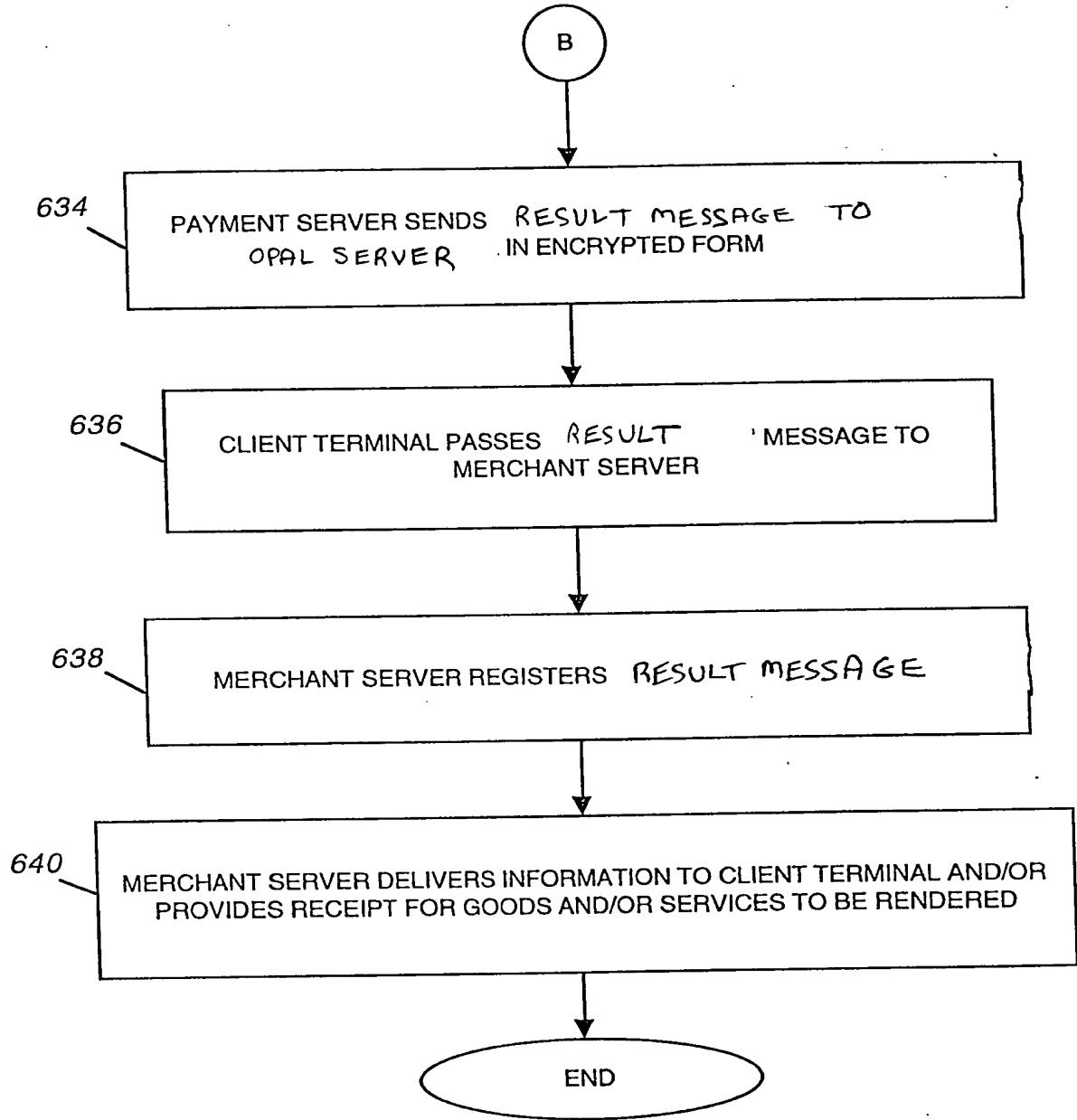
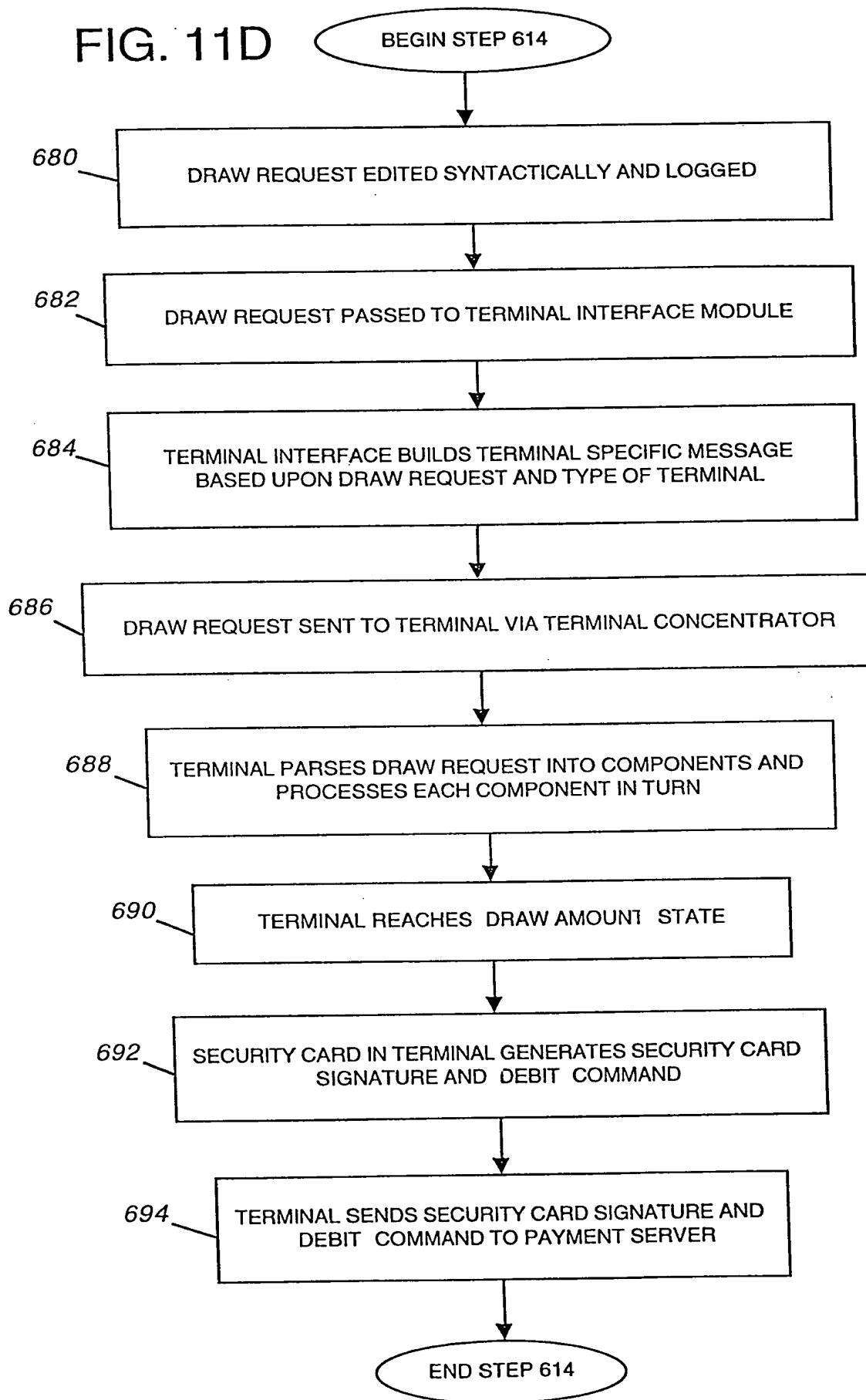


FIG. 11C

FIG. 11D



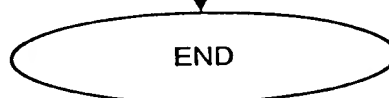
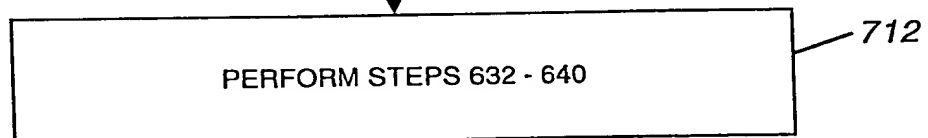
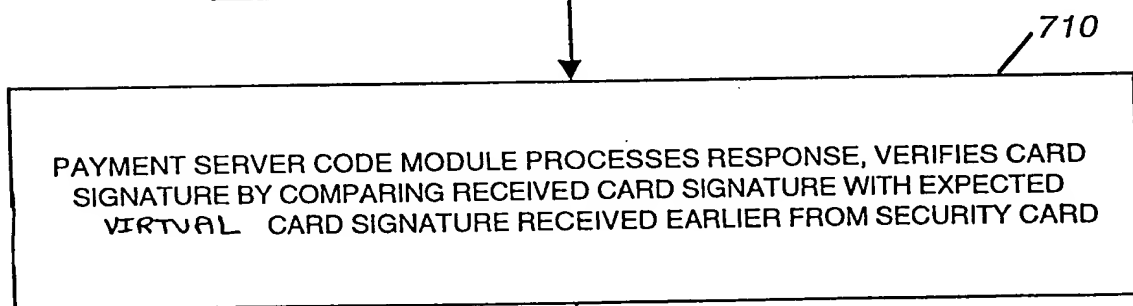
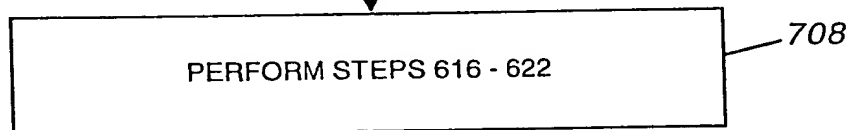
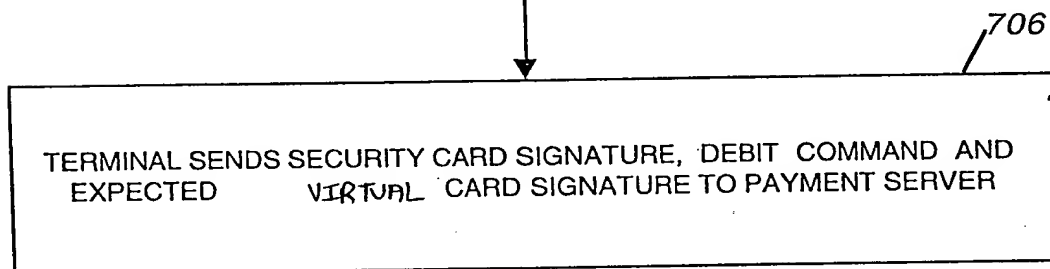
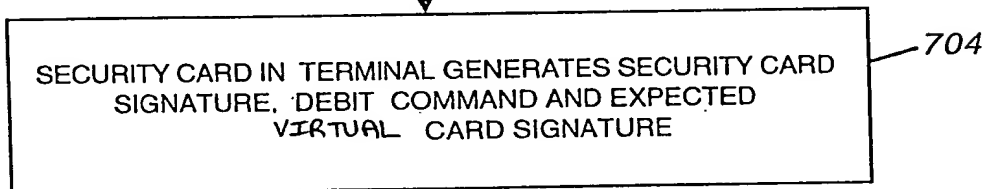
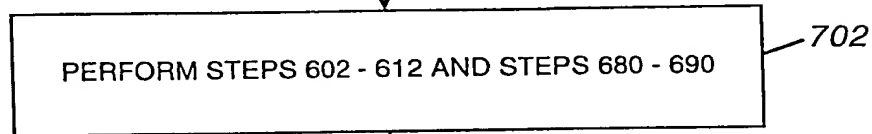
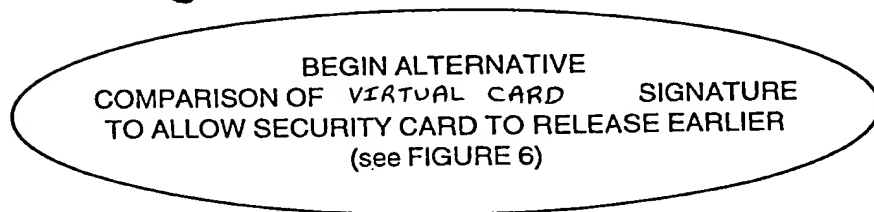


FIG. 12

BEGIN IMPLEMENTATION
OF ADDED SECURITY LAYER TO EMBODIMENTS
OF THE INVENTION
(see FIGURE 9)

PAYMENT SERVER AND MERCHANT SERVER SHARE A
UNIQUE DES ENCRYPTION KEY

CLIENT TERMINAL AND MERCHANT SERVER ENGAGE IN
PROTECTED SSL SESSION

MERCHANT SERVER DERIVES A KEY FROM THE DES KEY USING
INFORMATION UNIQUE TO THE TRANSACTION SUCH AS MERCHANT
IDENTIFIER, TRANSACTION IDENTIFIER, ETC.

MERCHANT SERVER DOWNLOADS HTML PAGE TO CLIENT
TERMINAL INCLUDING A TRANSACTION SESSION KEY (TSK) AND
THE TSK ENCRYPTED WITH THE DERIVED KEY (ETSK)

OPAL SERVER SENDS DRAW REQUEST ENCRYPTED WITH TSK TO
PAYMENT SERVER ALONG WITH ETSK

PAYMENT SERVER DECRYPTS ETSK WITH SHARED DES KEY TO PRODUCE TSK;
DECRYPTS DRAW REQUEST WITH TSK IN ORDER TO PROCESS DRAW REQUEST,
AND ENCRYPTS DEBIT COMMAND WITH TSK

FIG. 15A

A

FIG. 15B



FIG. 17

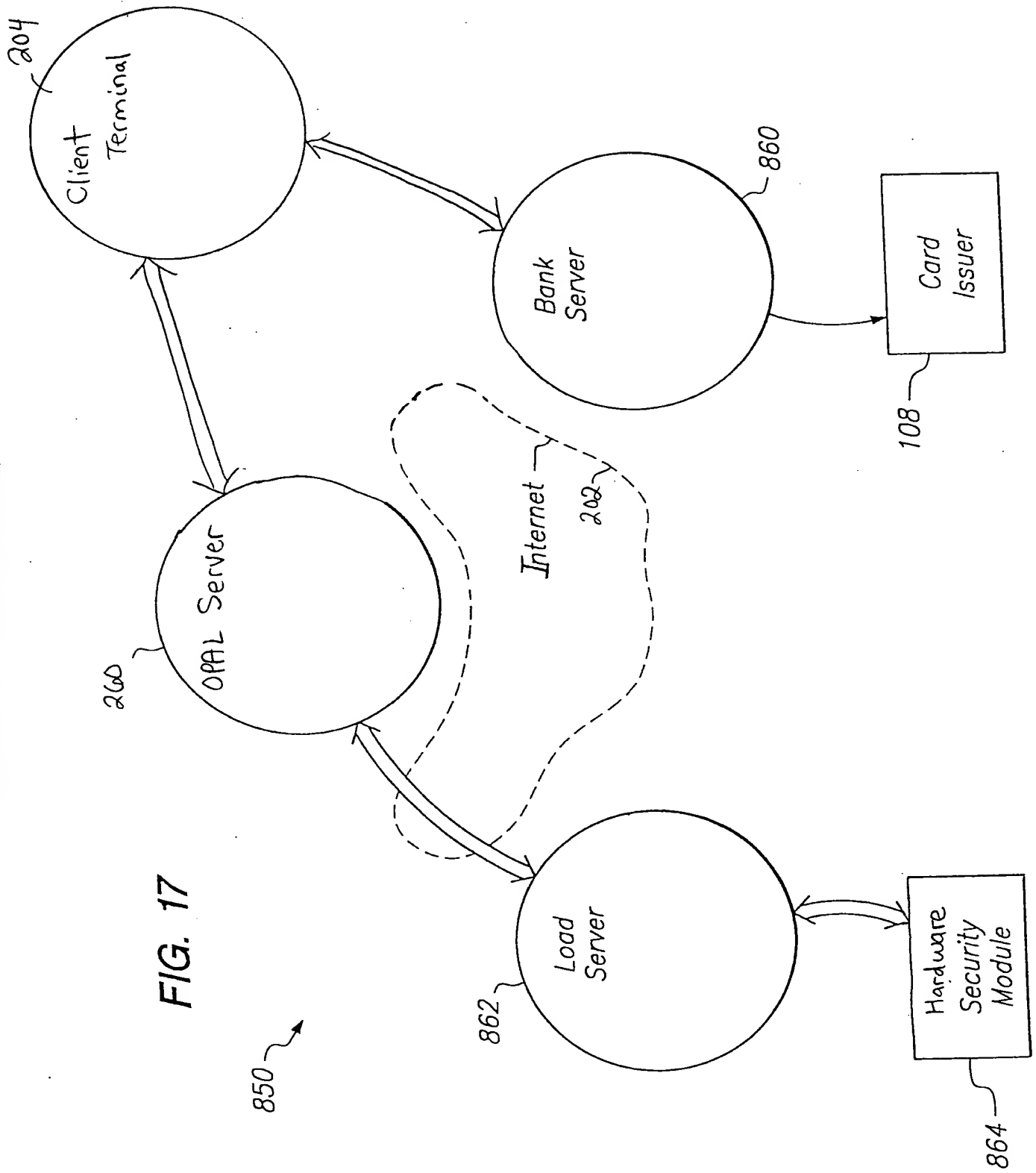


FIG. 18A

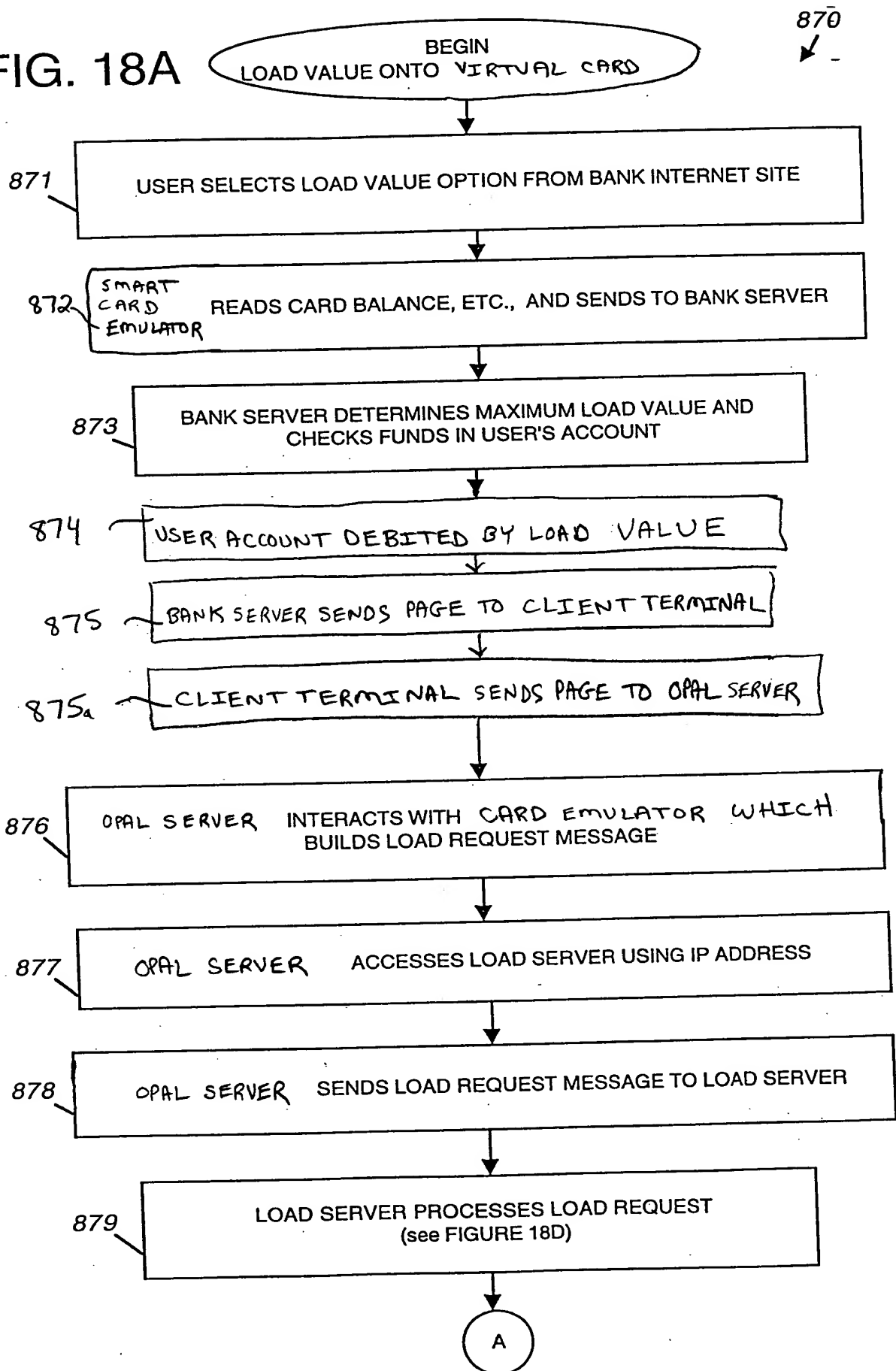
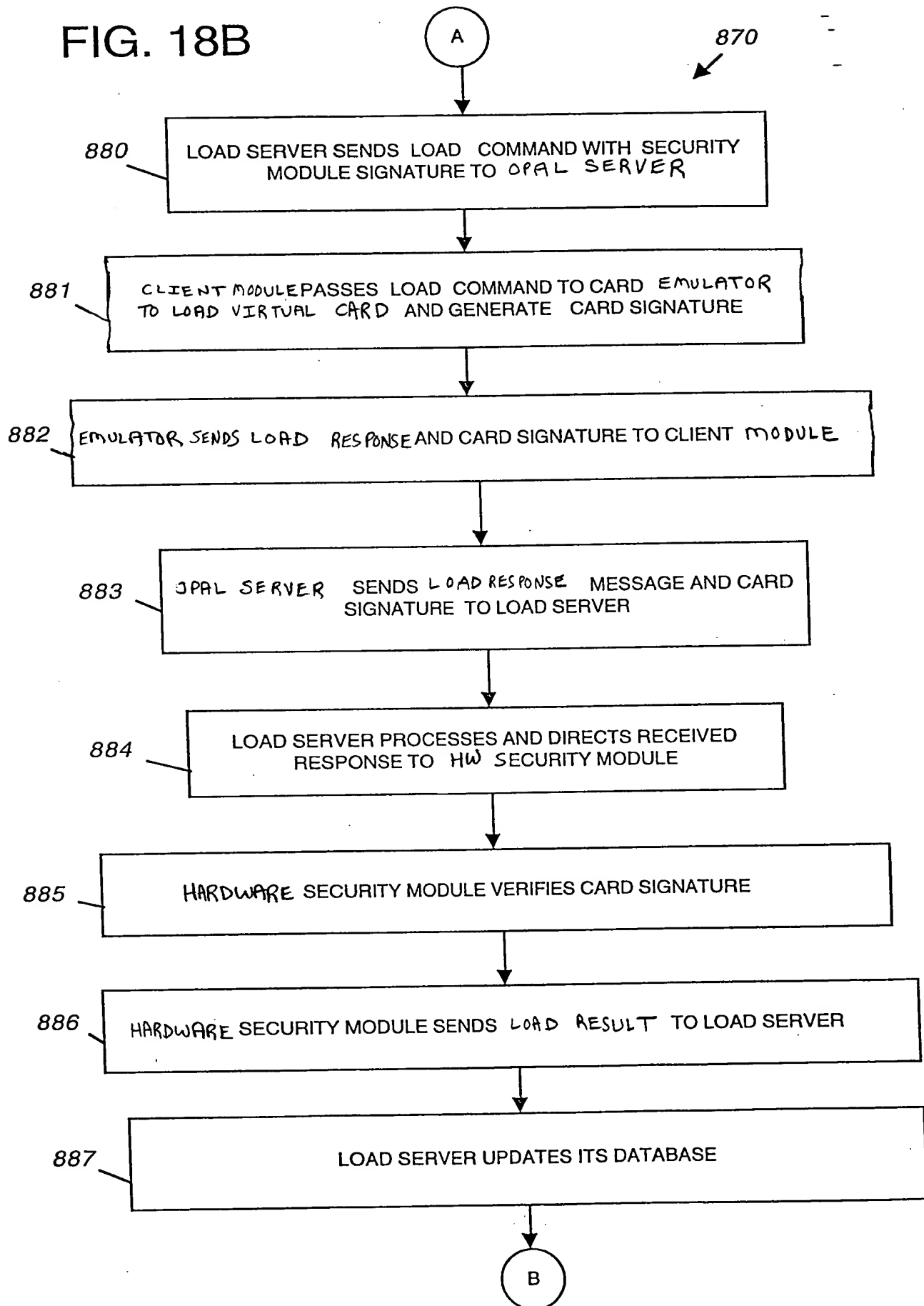


FIG. 18B



B

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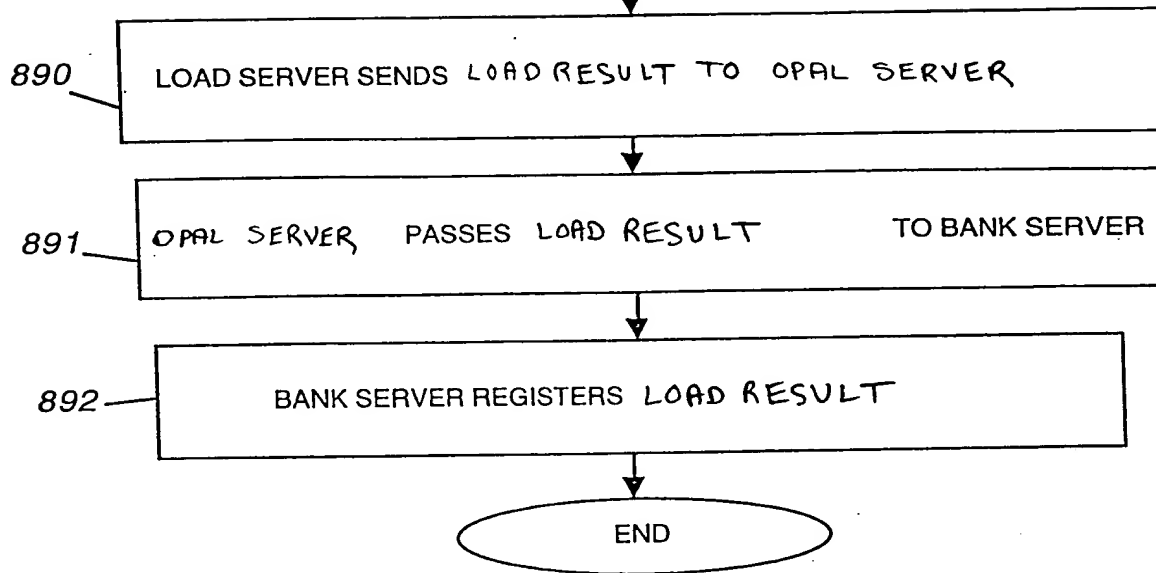
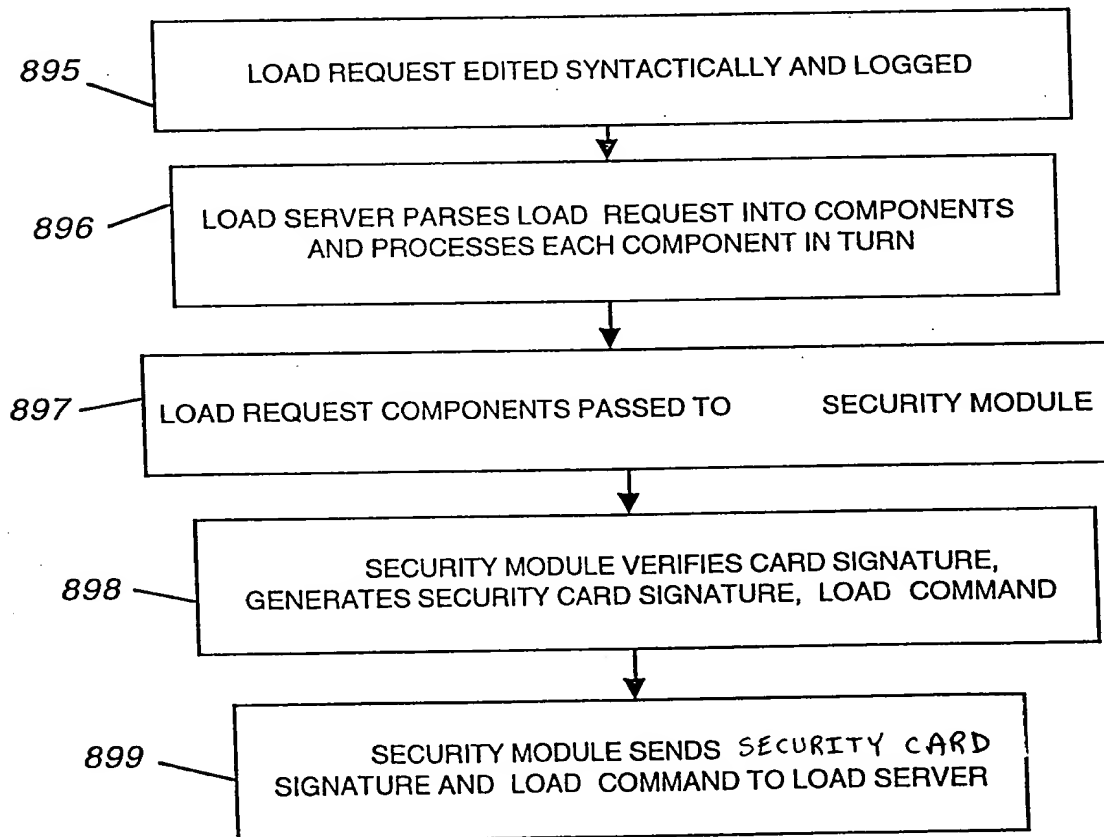
[illegible]

FIG. 18D

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